## AMENDMENTS TO THE SPECIFICATION

I. Please amend the paragraph at page 15, lines 11-15 as follows:

"Figure 3 is a graph showing a control treatment or example with no BEC added to the bST, and two examples measuring the serum bST levels over time in calves treated with a bST composition which contained in one example [Tween] TWEEN® 80 (polyoxyethylene(20) sorbitan monooleate) as a BEC, and in the other example, polyoxyethylene 8 stearate (POE8S) as a BEC."

II. Please amend the paragraph at page 15, lines 24-26 as follows:

"Figure 5 is a graph showing weight gain over time in mature female rodents treated with two bST compositions which contained different levels of [Tween] TWEEN ® 80 as the first BEC."





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Please amend Table 1 (page 29) as follows:

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1st BEC	%1st BEC	2nd BEC	%2nd	%ZnbST <sup>1</sup>	Hydrophobic
			BEC		Carrier <sup>2</sup>
[Tween] TWEEN® 80	0.5	-	-	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	0.5	-	-	43	SO:AIMS 95:5
[Tween] TWEEN ® 80	1	-		40.5	SO:AlMS 95:5
[Tween] TWEEN ® 80	1	-	-	40.5	SO:AIMS 95:5
Tween TWEEN ® 80	2	-	-	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	2	-	-	43	SO:AIMS 95:5
Hydroxypropyl beta cyclodextrin	5	-	-	38	SO:AIMS 95:5
Octylglucoside	2	-	-	38	SO:AIMS 95:5
Sucrose distearate	5	-	-	38	SO:AIMS 95:5
Sucrose-stearate	5.		-	38	SO:AIMS 95:5
Polyoxyethylene 8 stearate	2.5	-	-	38	SO:AIMS 95:5
Polyoxyethylene 8 stearate	5	-	-	39	SO:AIMS 95:6
Polyoxyethylene 50 stearate	5	-	-	38	SO:AIMS 95:5
Polyoxyethylene 100 stearate	5	•	-	38	SO:AlMS 95:5
Polyethylene glycol 20 glyceride	5	-	-	38	SO:AlMS 95:5
Pluronic® F108	2	-	-	38	SO:AlMS 95:5
Tocopherol polyethylene glycol 1000 succinate	2	•	-	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	0.25	NaP(mono:di=6:4)	5	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	0.5	NaP(mono:di=6:4)	2	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	0.5	NaP(mono:di=6:4)	5	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	0.5	NaP(mono:di=6:4)	8	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	1	NaP(mono:di=6:4)	2	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	1	NaP(mono:di=6:4)	5	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	0.5	Trehalose Octaacetate	5	38	SO:AIMS 95:5
[Tween] TWEEN ® 80	0.5	Sucrose Octaacetate	. 5	38	SO:AIMS 95:5
Polyoxyethylene 8 stearate	2.5	NaP(mono:di=6:4)3	5	36	SO:AIMS 95:5
Polyoxyethylene 8 stearate	5	NaP(mono:di=6:4)	5	36	SO:AIMS 95: <u>5</u> [6]
Polyoxyethylene 8 stearate	5	NaP(monobasic)	5	36	SO:AIMS 95:5 [7]
Polyoxyethylene 8 stearate	5	Trehalose	10	34	SO:AIMS 95: <u>5</u> [8]
Polyoxyethylene 8 stearate	5	Histidine-HCl	3	36	SO:AIMS 95:5 [9]

<sup>&</sup>lt;sup>1</sup>ZnbST = Zinc bound bovine somatotropin.



<sup>&</sup>lt;sup>2</sup>SO:AlMS 95:5 = sesame oil (95%):aluminum monostearate (5%)

<sup>&</sup>lt;sup>3</sup>NaP (6:4) = a 6 to 4 molar ratio mixture of the monobasic to dibasic form of the sodium phosphate salt"

"Table 2: bST formulati n relative potency in rodents

<b>Description f Composition</b> All in SO/Alms <sup>1</sup>	Relative	Lower	Higher
	Potency	Limit	Limit
38% ZnbST + 0.5% [Tween] TWEEN® 80	119.0	107.1	130.8
43% ZnbST + 0.5% [Tween] TWEEN ® 80	125.0	113.7	136.2
40.5% ZnbST + 1% [Tween] TWEEN ® 80	120.4	109.2	131.5
38% ZnbST + 2% <del>[Tween]</del> TWEEN ® 80	114.5	99.2	129.8
43% ZnbST + 2% [Tween] TWEEN ® 80	111.7	100.2	123.3
38% ZnbST + 5% Hydroxypropyl beta	133.3	100.6	166.0
cyclodextrin			
38% ZnbST + 5% sucrose stearate	114.3	100.3	128.4
38% ZnbST + 5% Polyoxyethylene 8 stearate	114.3	99.5	129.2
38% ZnbST + 5% Polyoxyethylene 50 stearate	121.2	105.4	137.0
38% ZnbST + 5% Polyoxyethylene 100 stearate	104.3	90.5	118.1
38% ZnbST + 5% Tocopherol polyethylene	104.8	93.6	116.0
glycol 1000 succinate			
38% ZnbST + 0.25% [Tween] TWEEN ® 80 +	108.5	101.1	115.8
5% NaP(6:4) <sup>2</sup>			
38% ZnbST + 0.5% [Tween] TWEEN ® 80 + 2%	122.4	114.2	130.7
NaP(6:4)			
` '			
38% ZnbST + 1% [Tween] TWEEN ® 80 + 2%	114.6	107.7	121.6
NaP(6:4)			
38% ZnbST + 1% [Tween] TWEEN ® 80 + 5%	101.3	93.6	108.9
NaP(6:4)			
38% ZnbST + 0.5% [Tween] TWEEN ® 80 + 5%	128.4	118.9	137.9
Trehalose Octaacetate			

SO/AlMS (2.5%) = sesame oil 95%:aluminum monostearate 5%

## V. Please amend the paragraph at page 32, line 8, through page 33, line 3 as follows:

## "Example 5: Efficacy of Formulations Comprising POE8S or [Tween] TWEEN ® 80 as the first Bioavailability Enhancing Constituent

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The mean bST serum concentrations over 14 days in calves after receiving the polyoxyethylene 8 stearate (POE8S) or the [Tween] TWEEN® 80 formulation are shown in Figure 3. Compared to POSILAC®, the presence of the first BEC in the suspension formulation has improved the bST release into the circulatory system. The relative bST AUC (the BEC formulation AUC / POSILAC® AUC) is calculated to be 1.28 and 1.58 for the POE8S and

<sup>&</sup>lt;sup>2</sup> NaP (6:4) = a 6 to 4 molar ratio mixture of the monobasic to diabasic form of the sodium phosphate salt."



[Tween] TWEEN® 80 formulation, respectively. Furthermore, the POE8S formulation demonstrates a surprising improvement in bST release duration: the circulating bST concentrations remain above the baseline at day 12 post injection. These data demonstrate a surprisingly prolonged release for the animals treated with the formulations containing POE8S.